



Revision number: 1

Purchasing Agent: Debbie Gundersen

**Item: SELF PROPELLED ROTARY SNOW BLOWER**

Vendor: 00411I Kodiak Northwest Inc.  
P O Box 370  
50 East Ellis  
Paul ID 83347

Internet Homepage:

Telephone: (208) 438-8248

Fax number: (208) 438-8502

Contact: Bruce Burtenshaw or Harry Badger

Email address:

Brand/trade name: Kodiak Northwest

Price: See Attached Price List  
Terms: Net  
Effective dates: 11/20/98 through 11/20/00  
Days required for delivery: 150 Days  
Price guarantee period: 6 Months  
Minimum order:  
Min shipment without charges:  
Other conditions: One Year Renewal Option

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REVISION #1: CONTRACT HAS BEEN EXTENDED THROUGH 11/20/00.

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This contract covers only those items listed in the price schedule. It is the responsibility of the agency to ensure that other items purchased are invoiced separately. State agencies will place orders directly with the vendor (creating a PG in Finet) and make payments for the same on a PV referencing the original PG. Agencies will return to the vendor any invoice which reflects incorrect pricing.



- 1- New heavy duty self propelled rotary snow-blower on a 4 wheel steering chassis. Delivered \$258,457.00/ea.

### **SPECIFICATIONS**

The snow-blower is to be new of current model. The equipment is to meet the following minimum specifications but is not limited as to features furnished by the manufacturer. The equipment is to have all standard features. The equipment is to be delivered assembled, serviced, tested and ready to operate.

Bid to state terms and warranty or include copy of standard warranty.

Engine - two (2) year YES

Hydraulics - one (1) year YES

Drive Train - one (1) year YES

Items covered: Complete vehicle Duration: 1 Year

#### **Liquidated Damages:**

The vendor agrees to delivery of item as quoted in this bid. Failure, to deliver as quoted, constitutes an event of default. The actual damages to the State of Utah for the delay will be difficult or impossible to determine. Therefore, in lieu of actual damages, the vendor shall pay to the Utah, liquidated damages for each calendar day of delay, an amount of \$50.00, up to a maximum of 90 calendar days. Should the vendor be unable to complete the delivery at the end of the 90-day period, the State of Utah may, at its option, treat the contract as breached, terminate the contract, purchase substitute goods else-where, and charge the full increase, if any, in cost and handling for such purchase to the defaulting vendor, and seek such additional relief as provided by law. The vendor shall not be charged for liquidated damages when delay arises out of causes beyond the control and without the fault or negligence of the vendor.

### **DETAIL SPECIFICATIONS**

This specification describes a heavy-duty, self-propelled rotary snow-blower on a four-wheel steering chassis. The snow-blower shall be a ribbon type with a minimum capacity of 4,000 tons per hour (at 55 feet casting) of 25 pound per cubic foot undisturbed snow up to 10,000 feet elevation. All power for the snow-blower head and drive shall be provided by a single engine. Power to the snow-blower head shall be independent of the chassis forward speed.

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|-----------|---|
| Operating | These units shall be designed to start and operate at altitudes up to 10,000 feet or Conditions more in ambient temperatures of minus 40 degrees Fahrenheit, with full protection for all systems.  |
| Rotary    | <p>The rotary shall be designed to discharge rocks and similar debris up to 8" in diameter without damage to the machine. The rotary shall be designed to remove snow leaving a clean surface without windrows, chunks, or accumulations of snow on the roadway. This quality will be expected during all phases of tons/hr. output of operation.</p> <p>Rotary snow removal machine shall be capable of gathering and casting without clogging, snow and slush in accordance with performance requirements set forth in these specifications. Also, casting distance measured from centerline of the rotary to center of maximum deposition area with no wind.</p> |
| Paint     | All metal surfaces shall be acid washed and dried prior to priming all surfaces and painting. If  |



rusted, metal must be sand-blasted. All auxiliary items like hydraulic control boxes, tool boxes, etc must be painted before installation. Complete unit to be painted to provide a minimum paint thickness of 4 mils. To be verified at time of delivery. No hydraulic hose, fitting or electrical connection shall be painted. Painting of areas where fittings or electrical connections are placed, shall be done prior to installation. Dealer's advertising to be omitted. Warranty on paint will be considered in evaluating bids.

Paint process used: Air Atomized

Paint warranty 5 (years) Standox Paint

The driver's seat shall be a high-backed bucket, cloth covered, cushion-suspension type with four-way adjustment and fore and aft isolator.

Safety belts with three-point system with retractors, shall be installed for the driver and passenger positions.

An extra heavy duty hot water heater capable of producing sufficient heat for the cab and defrosting the windows. In lieu, of window defroster's; electrically heated glass, wiring to be inside the lamination, for both front and rear glass is acceptable (No tape or stick on wiring). The heater shall be or not less than 50 degrees Fahrenheit when the outside ambient temperature is 30 degrees below zero. Defrosters shall conduct large volumes of heated air over the front and side windows to keep them clear. The heater and defroster controls shall allow the heat and air to flow to be adjusted.

The instrument panel shall have all of the necessary gauges for operating grouped for view the operator; to include fuel gauge, oil pressure gauge, temperature gauge, volt-meter, air restriction- indicator, tachometer, and instruments for monitoring the hydraulic systems. In addition to the gauges, there shall high temperature and low oil pressure warning lights. To have a hand-set throttle.

There shall be two, heavy duty, windshield wipers, pantagraph type.

To have dual horns.

To have an arm rest on each door or seats.

#### Fuel tank

Fuel tank to have a capacity for not less than 10 hours of continuous operations at full load with an ample reserve. If the tanks is a bottom draw, a manual shut-off valve is required at the tanks. Fuel fill shall be on the left side or center rear, for all tanks and accept not less than 10 G.P.M. To include in the bid, engine manufacture fuel chart, for fuel use. To verify that the unit can get 10 hours of working time. Fuel tank is to be baffled and removable.

Access shall be provided to engine compartment. Steps and walkways if needed, they shall be heavy-duty, open grate type.

The engine compartment and access shall be so that engine components can be maintained or removed with ease. The engine compartment shall be enclosed and sealed to prevent infiltration of blowing snow while allowing air required for cooling to enter.

Cab access shall include hand-grab rails mounted behind both doors and steps on both sides of the chassis. The first step shall not be more than 22" from the ground, if practical. Adequate



toe clearance shall be proved for all steps; open-grate type are required. Steps must extend out beyond the door sill.

The wheel wells shall protect components from throw-offs from the wheels and contain broken chains cross links without sustaining substantial damage.

Frame

The frame shall be fabricated from structural steel channel or tubular steel. The frame section modules and tensile strength of the steel shall have a minimum Resistant to Bending Moment (RBM) of not less than 864,800 per bar. Frame shall be braced and reinforced as required to prevent distortion under maximum loads. All frames and stiffeners shall be treated with a corrosion inhibitor and shall be primed and painted before assembly.

The frame rail length shall be long enough to provide for a wheelbase of not more than 140 inches.

Wheels

The front and rear wheels, shall be hub-piloted or ball seat - drop center, 10 hole style.

Make/model wheels: Six Robblees SR7060X

Tires

The front and rear tire's, shall be steel belted radial tubeless type, 18-ply singles, mixed service tread.

Brakes

To have brakes on all wheels. The brakes shall comply with FMVSS requirements for hydraulic brakes. The brakes shall be capable of bringing a fully equipped vehicle to a complete stop within 30 feet, from a speed of 10 MPH on a dry, hard, level surface. There shall be dust shields on all drums, dust shields shall have inspection ports, if available.

To have a minium of one disk parking brake, that shall comply with FMVSS brake code.

If air reservoirs are used they shall be equipped with manual drain cocks easily reachable to the operator lanyards to be remotely mounted if necessary. The drain cocks shall point away from the operator. A valve stem air charging port shall be provided so that the air brakes can be released by an external source. Automatic reservoir moisture ejector shall not be installed.

If an air drier with heater is used, to be a Bendix Pure Air Plus or approved equal, shall be installed.

If air tanks are used, valves and air drier shall be installed in a warm protected area such as the engine compartment.

If air cans are used they are require to have approved protection, if mounted below the axle center line.

Axles

The front driving axles shall be planetary steering type with no-spin differentials. The manufacturer's rated capacity of the axles and suspensions shall be not less than the maximum loads imposed a minimum of 25,000 lbs. Both front and rear differential ratios must be the same.

The components in the drive system shall be rated for double the maximum loading that they could be subjected to in the worst case condition. Casing distance shall be from 10 to 125 feet. Shear pins shall be sized to protect the unit and be easily replaceable.

Electrical

The electrical system shall have high output alternator, brushless, internally regulated type. The alternator output shall be capable of maintaining the electrical system with all lights and heater fans on at a high idle.



The chassis electrical system shall incorporate the following features: 12-volt DC negative ground. Battery's furnished shall be heavy duty and in sufficient number to satisfy the electrical load and voltage requirements and have an easily assessable master disconnect switch. Master disconnect switch shall be independent of the ignition key switch.

All lighting and reflectors at the rear and sides shall comply with FMVSS 108 requirements for trucks over 80 inches wide. Two multiple-beam halogen headlights with dash indicator.

Two perlux all-weather driving lamps.

One (1) circuit for a two-way radio shall be provided. These circuit terminals in the cab shall consist of ground terminal, a 12-VDC hot power terminal and an ignition switch 12-VDC power terminal. The wiring used shall be not less than 12 gauge with the power source being one of the 12-volt batteries, if a 24-VDC system is used. The power draw for these circuits is .005 amp off,.5 amp 98% of operating time, and 20 amps 2% of operating time. The system shall be protected by a 30 amp fuse or circuit breaker.

A separate, independent hazard switch for signal lights shall be installed. A heavy-duty flasher with a minimum capacity of six turn signal lamps.

The engine compartment shall have two service lights. All electrical circuits shall be protected by easily accessible circuit breakers, manual.

#### Hydraulic

The hydraulic system shall provide, hydraulic power for operating, snowblower lift, discharge chute functions, and power steering functions. Hydraulic installation shall comply with the applicable requirements of specifications. The system shall be designed and sized to provide responsive controls.

The hydraulic pump shall be a direct drive; a belt driven pump is not acceptable.

All cylinder shafts shall be chrome-plated. The following cylinders shall be equipped with pilot check valves to prevent creeping: Snowblower head-lift cylinders. Discharge chute control cylinders, full rear wheel steering cylinders. The hydraulic system shall be protected with relief valves and filters.

Bid response Comply\_\_\_\_\_ Exceptions\_\_\_\_\_

The snow-blower shall be a two-stage rotary plow. The first stage shall be composed of helically formed ribbon that cuts and feeds the snow to the second stage impeller. The second stage impeller discharges the snow through a directional chute. The cutting width shall be not less than 102" to 120" inches and a least four inches wider than the outer most structure of the carrier. The cutting depth shall be not less than 68" inches. The snow blower shall be designed to minimize plugging.

Bid response Comply\_\_\_\_\_ Exceptions\_\_\_\_\_

The first stage shall consist of a right and left hand ribbon of equal lengths. The diameter of the first stage shall be not less than 49 inches. The ribbons shall be made from cold-formed T-1 steel with a Brinell hardness not less than 321 and have a minimum section of ½ inch by 6 inches and relief cut for cutting ice. Each flight to have not less than three supports constructed from the same material.

The design of the first stage shall be so that the snow is ingested into the second stage independent of forward motion.

The second stage impeller shall be a minimum of 52" in diameter, shall have a minimum of 5



fan blades and shall be made of T-1 steel with a Brinell hardness not less than 321 and a thickness of at least than ½ inch or AR360- 1/4" abrasive resistant steel. The impeller operating R.P.M. shall insure the quality of snow supplied by the ribbons is discharged and does no obstruct the discharge chute.

The reel/impeller blower assembly may be driven through Allison Automatic transmission, model HT 754.

Drive Type: Allison AT-754

The discharge chute shall be designed to direct the snow to the left or right side. The range of rotation shall be 130 degrees or more a left-hand stop at 45 degrees above horizontal and a right-hand stop at horizontal. There shall be a hydraulic controlled capper chute attached to the main snow chute to enable the operator to divert the snow away from buildings, power lines, ext. The main chute shall extend to the width of the cutting edge. To have precision spot casting, turntable mounting, assembly for truck loading with hydraulic rotation right and left of minimum of 270 degrees.

Two heavy-duty cutter bars shall be installed, one on each side of the cutter box, and shall be detachable. The cutter bars shall extend to a total height of not less than 8 foot above the ground and forward of the ribbon not less than 20 inches.

The lower edge of the snowblower head, shall be in three section for easy of replacement; equipped with a replaceable high carbon steel cutting edge.

There shall be two replaceable, mushroom shoes with skid type, full length, ware shoes. The shoe heights shall be adjustable without removing shims or bolts.

The snowblower head shall be raised not less than 10 inches above grade and not less than 2 inches below grade by hydraulic cylinders, with float and down pressure functions. Travel lock pins shall be engaged from in the cab. Drive the angles will not exceed 15 degrees a full up or down positions. To have 5° minimum both left and right, electric/hydraulic, tilt head with cab mounted control,

The rotary's rear bumper shall be heavy duty and adequate to be pushed upon by other heavy equipment. The bumper shall be able to protect the chassis upon contracting hard snow banks or other solid material.

Two heavy-duty tow hooks or a pintle hook shall be installed at the rear of the snowblower.

Components on the sides of the machines shall be protected from objects such as rocks, trees, etc.

As continuous operation of the vehicles described by this specification is of utmost importance, it is necessary that the successful bidder be in a position to render prompt service and to furnish replacement parts.

Option	To have 20 shear pin's for the ribbon.
Option price:	Included
Option	Monitor and camera system, for rear viewing.
Option price:	\$750.00



Option Heated windshield and rear glass (no tape or stick on wiring).

Option price: \$1431.00

Option: Cutting bars

Option price: \$200.00

Option Large outside, motorized mirrors, left and or right-hand, stainless steel, heated, and not less than 6" x 16" (ReTract, or approved equal) to fold when struck.

Left mirror-Option price: \$135.00

Left and Right-Option price: \$135.00

Option AM - FM cassette radio, with weather band.

Option price: \$125.00

**DELIVERY**

Delivery is to be made on or before 150 days.

Delivery must include the following:

- dealer's invoice
- a copy of warranty
- operator's manual for each unit
- 2 complete sets of manuals including:  
parts list, repair manual, operator's manual.

Cost of these manuals is to be included in bid price.

Delivery must also include MSO, application for title and safety inspection.

Invoices will not be approved for payment until all documentation and manuals have been received.

Reports The contractor will submit yearly reports to the State Purchasing Agent (Debbie Gundersen) showing quantities and dollar volume of purchases by each agency and political subdivision. This report will be due by 11/1/99.

**FINET COMMODITY CODE(S): FOR AGENCY USE ONLY**

76557000000 - SNOW BLOWERS, SELF-PROPELLED